Characterization & Assessment
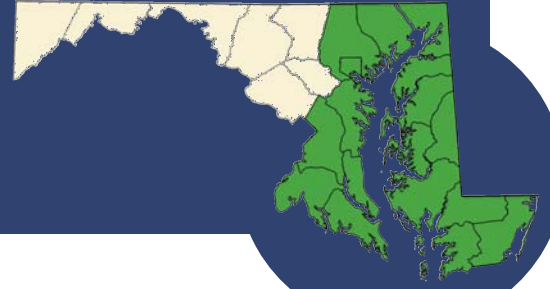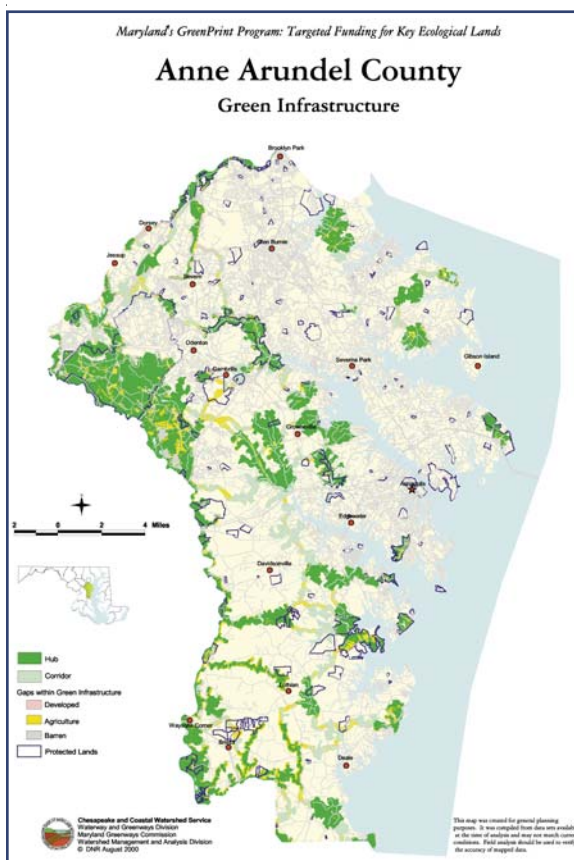
The Issue...

Population growth and changes to land and water resources are rapidly changing Maryland's Coastal Zone. Effective assessment, mapping and monitoring programs are essential to keep pace with these changes, develop resource protection and restoration strategies, and understand the long-term effectiveness of those efforts.

Maryland's GreenPrint Program: Targeted Funding for Key Ecological Lands

Anne Arundel County
Green Infrastructure

The State's Involvement...

Working with a variety of federal partners, Maryland has been recognized as a national leader in the development of characterization and assessment techniques. Assessment and monitoring programs developed by the Departments of Natural Resources, Environment, Planning and University of Maryland address four important objectives: they characterize existing conditions; detect changes and trends in key variables in response to management actions; determine cause and effect relationships; and explain ecosystem processes and how functions respond to anthropogenic and natural stresses. Much of the data and information derived from these activities is desktop accessible over the internet and presented in integrated formats.

The Maryland Department of Natural Resources (DNR) is on the forefront of using continuous and spatial monitoring technologies to assess water quality. DNR scientists have a 24-hour a day monitoring presence, providing insight into the highly variable conditions that exist in the Bay. Water quality mapping technologies enable DNR to determine the extent and impact of harmful conditions such as low dissolved oxygen or algal blooms. DNR's Eyes on the Bay (EOTB) monitoring program provides easy access to near real-time, mapped and historical Chesapeake and Coastal Bays water quality information and data. Interested citizens, local environmental groups, anglers, teachers using DNR lesson plans, scientists, managers and policy makers can easily obtain current and monthly data illustrated in map form. For more information on the EOTB program and Bay monitoring programs visit http://www.eyesonthebay.net and http://www.dnr.state.md.us/bay/monitoring/index.html.
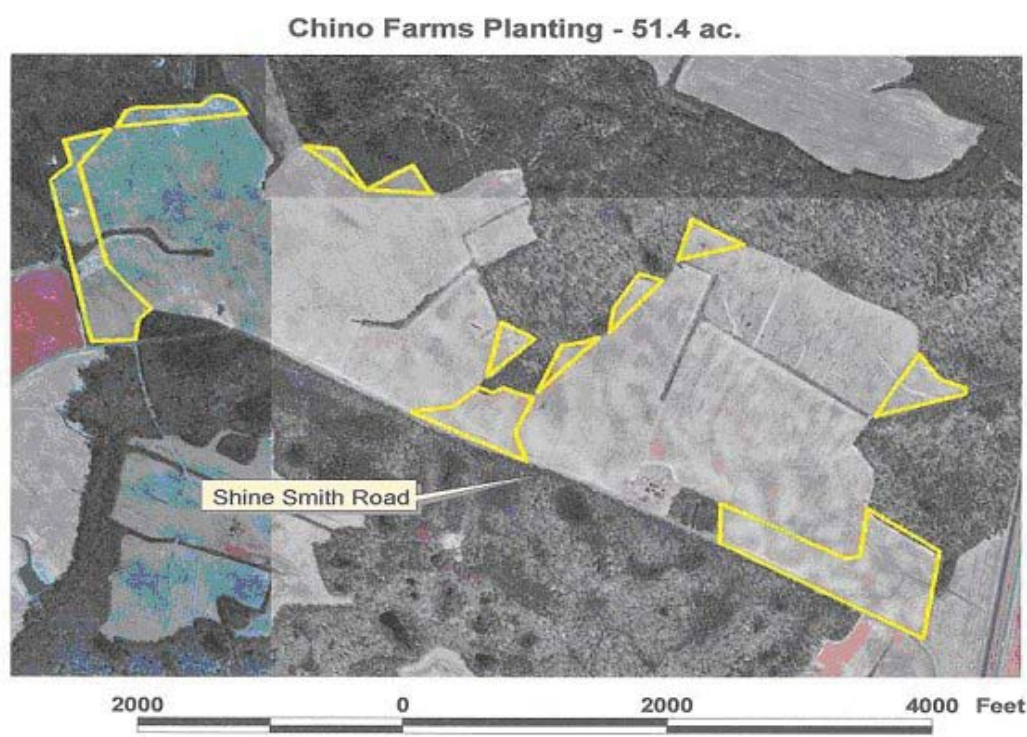
The State has made available a variety of mapping products over the internet portraying land uses, census, and specific information for every property parcel in the State. The Maryland's Environmental Resources and Land Information Network (MERLIN) provides an online electronic atlas of land use and environmental features for the entire State.

In addition to the standard characterization and assessment activities associated with natural resource, environmental protection and community planning, the State of Maryland has undertaken ambitious efforts to develop state-wide and regional ecosystem assessments and to integrate those with planning and development reviews. One of the most prominent examples is the Green Infrastructure Assessment — a database of ecologically important "hubs and corridors" which is used for targeted acquisitions through Maryland's GreenPrint Program and other acquisition programs.

The Coastal Program's Role...

The Maryland Coastal Program has been instrumental in supporting the development and maintenance of the State's assessment and monitoring programs. Because of the broad scope of the Program, it has been able to fill data and information gaps and build linkages among assessment and monitoring programs. Coastal Program funding supports a wide variety of assessment and monitoring activities — the collection and processing of high resolution elevation data using LIDAR technology, annual image based surveys of submerged aquatic vegetation throughout the Chesapeake Bay, and various watershed and stream corridor assessments, surveys and characterization reports associated with the development of each Watershed Restoration Action Strategy, among many others.

The Coastal Program is conducting the first comprehensive inventory of shoreline conditions. When completed in 2005, the inventory will contain information on bank conditions, i.e., height, stability, vegetation; land uses adjacent to the shore; and modifications for every stretch of shoreline in the State. This information is critical to interpreting the new shoreline change rates that the Program funded. In addition, the shoreline inventory will provide essential information for conducting permit reviews, assessing cumulative impacts, and identifying restoration opportunities.

Recently, the Coastal Program supported improvements to the Green Infrastructure Assessment to better target corridor gaps for restoration potential. This project developed a methodology for assessing and prioritizing gaps for their restoration potential and ecological functional values.

Chino Farms Planting - 51.4 ac.

Shine Smith Road

2000   0   2000   4000 Feet

Reforestation plan within green infrastructure gap, showing restoration of connectivity.